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GREG GABLE

MR. GABLE: My name is Greg Gable. I'm with the Shundahai Network here this Las Vegas. Rather than speaking from the heart, which is really important on this issue, we all need to do, I understand the DOE will not listen to emotional reason, so I am going to introduce once again scientific reports for -- to get response back from the DOE. As I spoke with the moderator in the beginning, I'm not going to read the entire report just not to bore everybody with scientific jargon, though it's very, very interesting to me because it affects us and our future generations, but the moderator said this would be included, and I want to speak to the voice, to the recorder. I have terrible annunciation, so you'll have copies of this to correct it.

1 The first study I would like to speak about fluid inclusion study of samples from the exploratory facility at Yucca Mountain by Yuri V. Dublyansky. The premises of this report is we've had water at the repository horizon before and we're going to have it again. The main findings of recommendation: This report analyzes mineral samples of calcium collected from Yucca Mountain in June 1988 by -- excuse me. 1998 by the author. Calcium carbonate -- calcium carbonate is a mineral that often forms veins and incrustations in rock fractures. It is always practically formed by precipitation of water. Calcite can be formed by geological media, by percolation of water from the surface or by upwelling water from below.

Examination of calcite samples from the Yucca Mountain subsurface discussed in this report leads to two principal conclusions: The studied calcite was formed by upwelling water and not from percolation of surface water and that the water that entered the Yucca Mountain repository area in the past was at elevated temperatures. The main findings are as follows: The water was trapped in tiny cavities in the calcium samples. These trapped water bodies are called fluid inclusions. Many fluid inclusions have vapor bubbles in them indicating the water had shrunk before it became trapped. The shrinking of water is evidence that the water has cooled off from its original temperature. There is evidence that the presence of water elevated temperature in the repository area in the geologic paths that could not have come from surface sources.

A few samples show the presence of hydrocarbons. These are all gas inclusions in calcite in which traces of aeromatic hydrocarbons were found. Hydrocarbons are heavy modules that could not have originated in surface sources. There's evidence of hydrocarbons in the geological medium beneath Yucca Mountain and tends to trap hydrocarbons by supplementary though at present fragmentary additional evidence of upwelling water in the repository horizon.

Anything found at Yucca Mountain besides calcite contain other metals such as opal, quartz and minor fluoridite. These minerals are typically precipitated from warm or hot water. Particular is extremely rare for quartz or fluoridite to be formed from the surface water percolation. Hence the presence of these minerals is strong evidence of past presence of upwelling of warm water in the Yucca Mountain area.

Four, minerals formed in the unsaturated zone that is above the water table are typically deposited in laminated formation consisting of million of tiny crystals. For instance, stalactites in caves are created this way. By contrast, large individual perfectly shaped crystals require a saturated environment to form. The calcite at Yucca Mountain was formed -- found perfectly formed shaped individual crystals indicating clearly that the area at sometime in the past was saturated.

Now I want to go on about this, but I feel it's really important to realize that we're having water possibility coming back up into the repository. We have waste casks with the DOE's figures allow us to 750 degrees. We have the walls of the drip under one of the thermal modules at over 300 degrees. If we bring water up into that, we're going to blow the top the mountain right off.

2 I want to continue on with two other reports that have to do the microorganisms that are currently found and were found in the Yucca Mountain facility. This is the first of two reports. The first is the Effects of

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Gamma Radiation on Native Endolithic Microorganisms from a Radioactive Waste Deposit Site. This report is used with permission from Beth J. Pitonzo, Penny S. Amy and Mark Rudin. This was produced in conjunction with the Yucca Mountain Project under agreement contract number DEFC0890MB10872.

Basically this report, which I'm going to read a little bit about, talks about the indigenous microorganisms that have been dormant for five to six million years which once radiated under similar conditions that are expected in the repository have started to thrive, have started to reproduce and the biggest thing about them is that they have the ability to do microbial influence corrosion of metals. Basically we have bacteria available that will and can corrode the nuclear waste casks, that have not been designed as I understand at this time. The last time I went on a Yucca Mountain tour, they turned the waste casks inside out. They changed the shielding all around. So I think it's I very important that we talk about this report in the Final -- well, it's never going to be final as far as I'm concerned.

MR. LAWSON: Mr. Gable, you're over five.

How many more minutes would you like to go?

MR. GABLE: I would just like to put these two reports into the record.

MR. LAWSON: A couple minutes?

MR. GABLE: I can do it really quick here.

MR. LAWSON: Okay. Fine. Go ahead, please.

2 continued below

MR. GABLE: Over the last two decades, scientists have identified a large number of microorganisms that -

MR. LAWSON: Slow down. There is a limit. He's talented, but he's not a machine.

MR. GABLE: That's why I talked before.

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Usual assumptions of biological life are destroyed under strained conditions. Ionized radiation provides no exception as microbes have been discovered to withstand significant exposure. These organisms show no loss of viability as doses up to 5,000 g-rays. Radiation resistance has been shown in many organisms. Primarily food industry is trying to radiate our food.

The point I want to make here is that as the nuclear stockpile increases and long-term storage is imminent a and is apparent to evaluate the effects of radiation on microbial communities under projections -- under projected underground repository conditions. Of special interest are those involved in the process of nuclear influence corrosion of storage canisters. Microbial influenced corrosion of metals and other materials is caused by several metabolic types of bacteria including sulfa reducers, iron oxides, acid producers and oxopolysacharine procedures.

I'm going to leave it at that, but we're faced with a critical situation. We don't have correct answers at all. I will be available for comment for anybody at any point. Thank you.